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MARCH, 1952

JANUARY 8, 1951

The 541st meeting was held at the H.S.P.A. Experiment Station on Monday, January 8, at 2:00 p.m., with President Hardy in the chair.

Members present: Bess, Bianchi, Bryan, Chong, Clancy, Defibaugh, Dresner, Finney, Fullaway, Hagen, Haramoto, Hardy, Hinman, Ito, Marucci, Messenger, Mitchell, Newell, Nishida, Pemberton, Peterson, Rathburn, Rosa, Martin Sherman, Steiner, Swezey, Thomsen, van den Bosch and Van Zwaluwenburg.

PAPER

Dr. Swezey presented his paper: "Insect Fauna of a Coconut Tree," and in discussing it exhibited many of the species concerned.

NOTES AND EXHIBITIONS

A NEW HOST OF AMORBIA—Mr. Peterson reported that on December 10, Mr. Thomsen and he found larvae of the tortricid moth, *Amorbia emigratella* Busck feeding within folded leaves of *Cassia leschenaultiana* (*C. mimosoides*) at Waiahole, Oahu. This appears to be a hitherto unrecorded hostplant for this insect.

ARGENTINE ANT—Mr. Steiner reported that because of the possible importance of this ant as a predator on *Dacus dorsalis* Hendel, collections of ants were made at 14 scattered locations in or near Opaepala and Helemano gulches, Oahu, on November 30. Weekly guava collections had been made since the previous June to observe oriental fruit fly populations. The Argentine ant was the sole species found at seven of the stations, with *Pheidole* present at the others. Near one location *Iridomyrmex* ants were nesting inside a wind-recording instrument in such numbers as to interfere with its performance. The locations at which Argentine ant was found included three along the military road (Route 135) crossing Opaepala gulch, one in a gulch one-quarter of a mile north, one on the road where it turns into the mountains, and two in the upper end of a lateral gulch of Opaepala, nearly one mile west of the gulch infestation. Subsequently the Argentine ant was found in the woods on the north rim of Opaepala gulch where Riggs Battery was located during the recent war. These findings indicate that *Iridomyrmex* is present over at least 8 square

miles of area bordering the Koolau mountains on the west, near the junction of sugar cane and pineapple fields.

Mr. Ito said that after receiving the above information from Mr. Steiner, he made a survey above Opaëula to determine the present distribution of the Argentine ant. Assuming, as the evidence suggests, that Riggs Battery was the original site of the infestation, the ant has now spread one mile up Opaëula gulch, and seaward, down to the government road. Opaëula gulch is infested on both sides; the ant has crossed narrow pineapple fields into secondary gulches on both sides of the main Opaëula gulch, and at present dominates the upper parts of these valleys. In the direction of Wahiawa, along the military road, infestation has reached Hawaiian Pineapple Co.'s fields 4705 and 4711. Invasion of Anahulu gulch, in the direction of Waialua, has probably been under way for some time, as the ant was found from the native forest almost halfway down the border of Field 4717, and strong colonies were present where the Army road crosses the streambed of Anahulu gulch.

Consensus of the discussion that followed was that the Argentine ant is both a feeder on sweets and predaceous. Mr. Rosa reported seeing it attack both adults and eggs of *Coelophora* beetles in the field.

FEBRUARY 12, 1951

The 542nd meeting was held at the H.S.P.A. Experiment Station on Monday, February 12, at 2:00 p.m., with President Hardy in the chair.

Members present: Adachi, Bess, Bryan, Carter, Clagg, Defibaugh, Dresner, Finney, Fullaway, Hagen, Haramoto, Hardy, Keck, Marucci, Messenger, Mitchell, Newell, Nishida, Pemberton, Peterson, Ritchie, Rosa, Schmidt, Martin Sherman, Suehiro, Swezey, Thomsen, van den Bosch, Van Zwaluwenburg and Wellhouse.

Visitors: J. W. Beardsley and Dr. Walter Ebeling.

NOTES AND EXHIBITIONS

ENCARSIA FORMOSA Gahan—Dr. Swezey exhibited a leaf of *Sonchus oleraceus* heavily infested with *Trialeurodes vaporariorum* (Westwood). Some of the aleurodids were parasitized, as shown by their black color. A slide mount was exhibited of the parasite, the aphelinid, *Encarsia formosa*, introduced into Hawaii in 1942, and liberated at Waianae. The leaf exhibited was collected February 10 at Makaha, Oahu, in a weed patch within a mile of where the parasite had been liberated. This shows that the parasite is keeping up its existence in the Waianae district. Dr. Sherman added that he had recently seen *Encarsia* in aleurodid colonies in greenhouses.

IRIDOMYRMEX HUMILIS Mayr—Mr. Thomsen reported finding the Argentine ant established at Schofield Barracks Ordnance Depot on January 21. The infestation extends for one-half mile along one side of a road adjacent to the depot; it was observed that where the Argentine ant did

not occur, *Pheidole megacephala* (F.) was abundant, while where *Iridomyrmex* was present, no other ants were found. This infestation again associates the Argentine ant with a military installation. Most of the known locations of the ant in these Islands are in association with camps, and the species is believed to have been spread by movement of military stores or equipment.

Mr. Van Zwaluwenburg said that a survey made January 10-12 by Mr. Rosa and himself showed the Argentine ant to be widely spread at Waialua Plantation Co., in fields in the Helemano and Opaepala sections on either side of Opaepala gulch. The ant extends toward the sea as far as Pump 3, but none were found below the main highway.

HOST RECORDS OF *DACUS DORSALIS* Hendel—Dr. Carter reported the following previously unrecorded host fruits of the oriental fruit fly, the result of work by Messrs. Maehler and Davis on Maui:

Sandoricum koetjape ("santol"). From 202 fruit weighing 23,163 grams, collected at Kahakuloa during November, 1950, 1,572 puparia were recovered, from which emerged 474 *D. dorsalis* and 428 *Opius persulcatus* (so-called)¹.

Garcinia celebica. From 26 fruits, weighing 1,330 grams, collected at Kahakuloa during November, 71 puparia were recovered, from which emerged 64 *D. dorsalis* and 1 *O. persulcatus* (so-called).

Physalis peruviana ("poha"). From 34 fruits weighing 99 grams, collected at Makaoioi, June 14, 3 puparia were recovered from which 1 *D. dorsalis* emerged.

NOSEMA ATTACKING FRUIT FLIES—Mr. Hagen reported that difficulty had been experienced recently in the experimental breeding of the three local species of tephritid fruit flies, due to an unidentified protozoan of the genus *Nosema*. The disease appears to be connected with a poor rearing medium. Study of the problem continues.

PHIDIPPUS AUDAX Hentz—Dr. Hardy reported that Dr. W. J. Gertsch identified this salticid spider among material sent to him last November. This is a new spider for the Hawaiian Islands. Although Dr. Gertsch did not report the locality of the specimens he named, practically the entire collection was from Honolulu. Dr. Gertsch says that "this is a spider of eastern United States and Mexico. . . ."

CHIRACANTHIUM sp.—Dr. Hardy reported a second case of spider bite involving this genus. On New Year's eve a man was bitten on the thumb while gathering clothes from a line at Kakaako, Honolulu. There was an immediate, intense stinging sensation, many times worse than a bee sting. The pain continued for hours and by evening a red streak extended up the arm from the bite, and a large lump had formed in the axillary region. That night the patient received emergency treatment at the hospital; lancing the site of the bite gave relief and rapid recovery.

¹ This is the species subsequently named *Opius vandenboschi* by Fullaway; see p. 413 of this issue of the "PROCEEDINGS." [Ed.]

ARGIOPE APPENSA Walckenaer—Dr. Hardy reported that this species seems to be generally distributed on Oahu. Mr. Haramoto brought in specimens in December from Kahaluu; previous records are from Waipio and Honolulu. Dr. Swezey added that he collected this spider on February 10 at Makaha in the Waianae district.

SCALE INSECTS ON ARAUCARIA—Dr. Hardy reported that Miss Adachi collected an unusual scale species recently on *Araucaria* in Manoa Valley, Honolulu, which was sent to Dr. G. F. Ferris for identification. Dr. Ferris reported as follows: "This is apparently an undescribed species belonging to the *Pseudoparlatoria* series, which strongly suggests that it is New World in origin, this group being very definitely neotropical. By greatly stretching the definition of the genus *Pseudoparlatoria* it can be put in that genus, although personally I would be inclined to regard it as a new genus. There have been a few species of *Pseudoparlatoria* described from South America, which are practically unrecognizable, but unless it is one of those it is new."

HOMONEURA UNGUICULATA (Kertész)—Dr. Hardy reported that this lauxaniid fly, the identification of which has been confirmed by C. W. Sabrosky, is common on Oahu and probably on the other islands also. It has obviously been here for years, but has not been recorded in our literature. Specimens are present in all of the local collections. Three specimens in the Bishop Museum have been determined by Malloch as this species. They are from Kalalau, Kauai, June 18, 1922, E. H. Bryan, Jr.; Waiahole, Oahu, May 30, 1920, E. H. Bryan, Jr.; and Old Parker place, Waimea, Hawaii, June 19, 1922, J. F. Illingworth. The genus was described as a *Lauxania* (Ann. Mus. Hungary, 11:100, 1913) from Formosa; no other distribution records have been found. It is possibly the species referred to by Grimshaw in "Fauna Hawaiiensis" as *Sapromyza* sp. (from "the Honolulu Mts., 1900"). It is also very probably the second species of *Homoneura* from Hawaii to which Malloch referred ("INSECTS OF SAMOA," 6, fasc. 4:208, 1929).

SCAPTOMYZA GRAMINUM Fallén—Dr. Hardy reported the following: This leafmining drosophilid has apparently not previously been recorded from the Territory. Several specimens were reared in January, 1951, by W. C. Mitchell from leaves of broccoli from Waimanalo, Oahu, where the fly was found to be abundant in and around broccoli fields. It is probably a recent immigrant, and no information is as yet available as to its economic importance. No specimens have been found in any of the collections in the Territory. Identification of this species was confirmed by Dr. M. R. Wheeler; the fly occurs in many parts of Europe, the continental United States and Canada.

ATHERIGONA HENDERSONI Malloch—Dr. Hardy reported that this muscid fly, a new species in the Territory, has been turning up in large numbers in casein hydrolysate bait traps operated by Paul Gow in the Maunawili region of Oahu. This species can be recognized from all the other *Atherigona* in the literature, by having the apex of the wing smoky fumose. It was described from Henderson Island in the south Pacific (Ann. Mag.

Nat. Hist., 12 [9]:184, 1923) and was later recorded by Malloch from Upolu, British Samoa ("INSECTS OF SAMOA," 6, fasc. 3:158, 1929).

Dr. Hardy's identification of this insect was confirmed by C. W. Sabrosky. A series of specimens of *A. hendersoni* is in the H.S.P.A. collection, taken by Dr. Swezey in Manoa Valley, Oahu, the first record being January 30, 1949. A specimen was taken on a window at the University of Hawaii by Charles Yasuda.

MARCH 12, 1951

The 543rd meeting was held at the H.S.P.A. Experiment Station on Monday, March 12, at 2:00 p.m., with President Hardy in the chair.

Members present: Adachi, Bess, Bianchi, Bonnet, Bryan, Clagg, Defibaugh, Dresner, Finney, Fullaway, Hagen, Haramoto, Hardy, Ito, Kamasaki, Keck, Look, Marucci, Messenger, Mitchell, Nishida, Pemberton, Peterson, Rathburn, Ritchie, Rosa, Martin Sherman, Suehiro, Swezey, van den Bosch, Van Zwaluwenburg, Weber, Wellhouse and Yasuda.

Visitors: J. W. Beardsley, Dr. Walter Ebeling, Miss Shizuko Maeda, L. Schoening and Minuro Tamashiro. Mr. Beardsley and Mr. Tamashiro were nominated for membership.

PAPERS

Mr. Hagen presented Dr. R. L. Doutt's paper: "Two new Species of *Anagyrus* (Hymenoptera: Encyrtidae)"; Dr. Hardy presented his paper: "Flies Collected in Bait Traps."

NOTES AND EXHIBITIONS

OTOSTIGMA SCABER Porat—Dr. Swezey exhibited a specimen of this centipede caught in his residence in Manoa, Honolulu, the night of March 10. Previous records of it from Nuuanu and Kalihi, Honolulu, date back to 1946, but no mention has been made of its occurrence in houses. It is distinguished from the commoner *Scolopendra subspinipes* Leach by its much longer anal legs which are blue, ringed with white.

STENOPTILIA PARVA (Walsingham)—Dr. Swezey exhibited specimens of this recent immigrant plume moth. It first came to attention here on April 6, 1946, when reared from *Erigeron albidus* by C. J. Davis at Kilauea, Hawaii National Park. Mr. Davis also collected it abundantly in the same region in light traps in November and December, 1947. On Oahu it was taken in light trap at Waipio in December, 1946 and February, 1947. Identification was made by Mr. Zimmerman by comparing specimens with the type in the British Museum. The species was described from Mt. Shasta, California ("PTEROPHORIDAE OF CALIFORNIA AND OREGON": 55, 1880).

ARMYWORMS AND THEIR PARASITES—Mr. Weber reported that on a trip to Waikii, Hawaii, in February, three species of armyworms and cutworms

were found. In order of their comparative abundance there were: *Cirphis unipuncta* (Haworth), *Lycophotia margaritosa* (Haworth) and *Agrotis ypsilon* Rottenburg. All larvae were found under rocks. Ten species of parasites and predators were collected; of these, the flies, especially *Chaetogaedia*, were the most common. One adult *Chelonus* was taken and one larva parasitized by *Euplectrus* was found; a single cocoon each of *Meteorus* and *Hyposoter* was found under stones. The list follows:

- Chaetogaedia monticola* (Bigot)
- Archytas cirphis* Curran
- Eucelatoria armigera* (Coquillett)
- Pterocormus koebelei* (Swezey)
- Pterocormus rufiventris* (Brullé)
- Euplectrus plathypenae* Howard
- Meteorus laphygmae* Viereck
- Chelonus texanus* Cresson
- Hyposoter exiguae* (Viereck)
- Calosoma blaptoides tehuacanum* (Lapouge)

ATISSA OAHUENSIS Cresson—Mr. Weber called attention to this ephydrid fly, described from Oahu, but not previously noted in these "PROCEEDINGS." It was described (Trans. American Ent. Soc., 74:24, 1948) from material collected by Yoshinori Tanada at Kaneohe, January 25, 1945. It was taken earlier by Mr. Tanada at Kuliouou, May 31, 1943.

PLAGITHMYSDUS CRISTATUS (Sharp)—Miss Suehiro exhibited specimens of this uncommon native longicorn collected in Makaha Valley, Oahu, February 19, on *Acacia koa* by E. J. Ford, Jr. On March 9 he found this species in all stages in a recently fallen koa log at an altitude of 1000 ft.

A NEW SCALE INSECT ON ARAUCARIA—Mrs. Defibaugh reported a new scale, collected on *Araucaria* sp. at Waipio, Oahu, February 1, 1951 by J. W. Beardsley. Specimens were sent to Dr. G. F. Ferris who reports that the species is apparently new, and of a genus hitherto unreported from these Islands, *Octaspidiotus* Macgillivray. The genotype, *O. subrubescens* (Maskell), is from Australia.

AIOLOPUS TAMULUS (F.)—Mr. Pemberton exhibited specimens of this grasshopper collected by N. L. H. Krauss on Canton Island in September 1950. This is apparently the first record of its occurrence on Canton. It is known from Persia and extends through India and parts of Indo-Malaya to Formosa, Australia and some of the Pacific islands, particularly Samoa, Tonga and the Marianas. In Java it attacks cotton, rice, maize and other grains, sugar cane and *Sesbania*. From April, 1940 to December, 1941, the H.S.P.A. maintained an entomologist on Canton Island continuously. Careful surveys of the insects occurring there during this period did not reveal this grasshopper's presence. Dammerman ("THE AGRICULTURAL ZOOLOGY OF THE MALAY ARCHIPELAGO": 125, 1929) states that this is one of the few grasshoppers attracted to lights at night. The frequent arrival of aircraft at Canton Island since December, 1941, from

areas where the species occurs, may account for its appearance on that island, especially in view of its phototropic habit at night. It will be remarkable if it does not reach Hawaii in planes en route to Honolulu that almost nightly refuel at Canton under flood lights.

INSECTS AS MEDICINE—Dr. Dresner told of observations in a local store which sells herbs and certain insects, used by the old-generation Chinese for specific ailments. Among the material offered for sale were phalaenid larvae from China killed by the entomogenous fungus *Cordyceps robertsi*; the exuviae of a cicada which are mixed with herbs to make a tea; and dried scorpions, also used as an ingredient in tea. Essig ("COLLEGE ENTOMOLOGY": 314, 1942) mentions the use of a Chinese cicada, *Huechys sanguinea* (Degeer) as a vesicant.

PACHYNEURON SYRPHI (Ashmead) — Mr. Bianchi exhibited a series of both sexes of this pteromalid, about 50 of which had emerged from the chrysalis of the butterfly, *Vanessa cardui* (L.) collected on February 13 at Waikii, Hawaii. No evidence of any other parasite was found within the chrysalis, so it is assumed that in this case *Pachyneuron* acted as a primary parasite. In any case, the rearing of it from a butterfly chrysalis, whether primary or secondary, appears to constitute a new record of parasitism. *Pachyneuron allograptae* Ashmead is a synonym of *A. syrphi*.

ANTHRENUS FLAVIPES LeConte—Mr. Bianchi exhibited a series of beetles found by Mr. Keck damaging brush bristles in a naval warehouse at Pearl Harbor, which he identified as *Anthrenus vorax* Waterhouse. Subsequently, in a posthumous note (The Coleopterists' Bull., 5:45, 1951), H. S. Barber showed that the insect known as *A. vorax* Waterhouse is *A. flavipes* LeConte. Mr. Peterson remarked that specimens identified as *A. vorax* by the U. S. National Museum were collected at Pearl Harbor in June or July, 1950. Although a cosmopolitan insect, this species has not previously been recorded from the Hawaiian Islands.

SPHINOGOLABIS HAWAIIENSIS (Bormans) — Mr. Marucci presented the following notes on this earwig. An adult female found in rotten guavas at Waiahole was brought into the laboratory. After four days three 1st-instar nymphs, all showing some growth distension, were observed in the container with the adult. This suggested either an extremely short incubation period, or viviparous reproduction, so the female was subjected to closer observation. In the next 12 days she produced 10 living young, though none was actually seen in the process of being extruded from the parent. However, two of the nymphs were seen not more than 15 minutes after birth. This appears to be an authentic case of ovo-viviparous reproduction. Although the literature records viviparous reproduction in the sub-order Arexinina, an anomalous group living ectoparasitically on birds, bats and rats, no reference could be found to reproduction of this type among the terrestrial earwigs.

PSEUDOCOCCUS BREVIPES (Cockerell) — Dr. Sherman reported finding the pineapple mealybug infesting sweet potatoes on the University campus on February 20. This appears to be a previously unreported hostplant for

the species. The mealybugs were found in all stages of development on stems above and below the surface of the soil, on the roots and within the abandoned tunnels of the stem-borer moth, *Omphisa anastomosalis* (Guenée). Closely associated with the mealybugs were colonies of the big-headed ant, *Pheidole megacephala* (F.).

MEALYBUG PARASITES AND ARGENTINE ANT—Mr. Ito reported that two encyrtid parasites of the pineapple mealybug, *Pseudococcus brevipes* (Cockerell), had been bred from material collected February 13 at Opaëula, Oahu. The material was from heavily infested first ratoon pineapple fruits on which the mealybugs had been fostered by the Argentine ant. The parasites were *Hambletonia pseudococcina* Compere and *Euryrhopalus pretiosa* (Timberlake), which emerged from apparently gravid *P. brevipes* females caged on pineapple leaves for purposes of a wilt test. Evidently parasitism was fairly common, for several cages were involved, and in a few cases as many as 3 out of 5 females per cage yielded parasites.

AMMOPHORUS INSULARIS Boheman — Mr. Van Zwaluwenburg said that he had found this tenebrionid in considerable numbers under stones at Molokai airport, February 14, 1951. This appears to be a new island record, the beetle being known here previously only from Oahu and Hawaii.

APRIL 9, 1951

The 544th meeting was held at the H.S.P.A. Experiment Station on Monday, April 9, at 2:00 p.m., with President Hardy in the chair.

Members present: Adachi, Beardsley, Bess, Bianchi, Defibaugh, Dresner, Finney, Fullaway, Hagen, Hardy, Hu, Kamasaki, Keck, Messenger, Nishida, Pemberton, Ritchie, Rosa, Steiner, Suehiro, Swezey, Tamashiro, Thomsen, van den Bosch, Van Zwaluwenburg, Weber and Wellhouse.

Visitor: Frank E. Skinner.

J. W. Beardsley and Minuro Tamashiro were unanimously elected to membership.

NOTES AND EXHIBITIONS

PINNASPIS BUXI (Bouché) — Dr. Swezey exhibited specimens of this scale on a leaf of *Anthurium magnificum* from his residence in Manoa. Apparently this is the first record of this species on *Anthurium*. Dr. Swezey's specimens were from a single large leaf, the only one infested on the plant; no other infested plants were found in the vicinity.

PARANACRYPTUS LACTEIPENNIS (Cameron) — Mr. Weber exhibited a specimen of this rarely collected chalcid, taken on a window at Waimanalo, Oahu, on February 5. It was described (Trans. Ent. Soc. London: 187, 1883) from Oahu in the genus *Epitranus*.

PROTAETIA FUSCA (Herbst)—Mr. Weber reported pigeon pea as a new hostplant of adults of this cetonine. Considerable damage was done to bushes in the Damon Tract, Honolulu, where the beetles chewed through buds to get at the ovaries. In discussion, it was said that this insect has been found in numbers in the Kaimuki district of the city.

LEIOLOPISMA METALLICUM (O'Shaughnessy)—Mr. Pemberton stated that in a recent letter, Dr. F. X. Williams wrote that the immigrant skink recorded as *Leiolepisma hawaiiensis* Loveridge ("PROCEEDINGS," 12:225, 1945), has been synonymized under *L. metallicum*. This species is known from South Australia, Victoria, New South Wales, the Loyalty Islands and the New Hebrides, as well as from Oahu. It will be noted that the generic name has been incorrectly spelled in our local records.

TELENOMUS NAWAI Ashmead—Mr. Bianchi reported that an egg-cluster of *Laphygma exempta* (Walker), collected April 6 on the H.S.P.A. grounds, and incidentally, the first such egg mass seen on Oahu for some years, yielded a large number of adults of this proctotrupid egg parasite. This record demonstrates the ability of the parasite to persist even when host material is extremely scarce.

MIDWAY ISLAND INSECTS—Mr. Keck reported finding woodwork on Midway Island on a recent visit there, March 21-27, infested by the drywood termite, *Cryptotermes brevis* (Walker). This is a new island record; he also found the ant, *Pheidole megacephala* (F.), there.

Dr. Hu reported identifying as *Culex quinquefasciatus* Say, adult mosquitoes collected indoors on Midway by Mr. Keck on March 24. This appears to be the first record of mosquitoes on Midway, although in the H.S.P.A. collection there is a series of *C. quinquefasciatus* from Midway collected by F. C. Hadden in June, 1937.

CALOTERMES FROM CANTON ISLAND—Mr. Van Zwaluwenburg reported that type material of *Calotermes curvithorax* Kelsey from Canton Island ("PROCEEDINGS," 13:207, 1948) was submitted to Dr. A. E. Emerson of the University of Chicago. In Dr. Emerson's opinion *C. curvithorax* is a synonym of *Kalotermes immigrans* Snyder, a species known not only from Hawaii, but also from Ecuador, the Galapagos, the Marquesas and the Line Islands.

PSEUDIASTATA PSEUDOCOCCIVORA Sabrosky—Attention was called to the recent description of this drosophilid, predaceous on *Pseudococcus brevipes* (Cockerell) (Bull. Ent. Research, 41:624, 1950). According to the author, "This is undoubtedly the species which was introduced (as *P. nebulosus*) into Hawaii on several occasions between 1924 and 1932 for the control of the pineapple mealybug." Local notes on *Pseudiaстata nebulosa* Coquillett ("PROCEEDINGS," 8:434, 456; 10:30, 352) actually refer therefore to *P. pseudococcivora*. Its introduction into Hawaii seems to have failed.

GONOCEPHALUM ADPRESSIFORME Kaszab—Mr. Van Zwaluwenburg called attention to the description of this tenebrionid from Luzon, Oahu and

Canton Island (Ann. Mag. Nat. Hist., 12th ser., 4, no. 38:182, 1951). This beetle, long confused here with *G. seriatum* (Boisduval), is certainly an immigrant to Oahu and Canton Island. The first specimens were taken here by Owen Bryant in Honolulu, February 8, 1932; it has been taken frequently since, but only on Oahu. The first Canton Island specimens were taken by Dr. P. M. Corboy on January 14, 1951, when the adult beetles were reported in great numbers inside buildings there. In the H.S.P.A. collection are two specimens of *G. adpressiforme* from Macassar, Celebes, collected by the late Dr. F. Muir in 1909, and a long series from Guam, taken by Dr. O. H. Swezey in 1936. These latter were erroneously recorded as *G. seriatum* ("INSECTS OF GUAM," I:165, 1942); another species, *G. incisum* (Blanchard), was recorded from Guam by K. G. Blair (l.c.:56) but this material was not seen by Dr. Swezey.

Mr. Mitchell and Dr. Newell observed damage by *G. adpressiforme* to young cucumber plants at Waimanalo ("PROCEEDINGS," 14:220, 1951). The species is somewhat smaller than *G. seriatum*, but is most easily distinguished from the latter by its shiny scutellum.

NEW SPIDER RECORDS—Dr. Hardy reported the identification of three spiders new to the Hawaiian Islands, made by Dr. W. J. Gertsch from material collected early in 1951. These are:

Coleosoma blandum Cambridge. Honolulu, Oahu, D. E. Hardy; tropicopolitan in distribution. Family Theridiidae.

Conopistha sp. Waimanalo, Oahu, Frank Haramoto; Kamuela, Hawaii, March, 1951, W. C. Mitchell and H. A. Bess. This small species is commensal, living in webs of other spiders (*Argiope*, for example) in the peripheral portion of the larger spider's web, where they form a small tangle of their own. Family Theridiidae.

Eperigone sp. Under rock, Manoa Valley, Oahu, D. E. Hardy. An American genus of the family Linyphiidae.

CHIRACANTHIUM sp.—Dr. Hardy reported that this spider is obviously widespread on Oahu. It has now been taken at Waimanalo, Kawailoa and Lualualei, as well as in Honolulu and the Pearl Harbor area.

MAY 14, 1951

The 545th meeting was held at the H.S.P.A. Experiment Station on Monday, May 14, at 2:00 p.m., with President Hardy in the chair.

Members present: Adachi, Alicata, Beardsley, Bess, Bianchi, Bryan, Chong, Defibaugh, Finney, Fullaway, Hagen, Haramoto, Hardy, Kamasaki, Look, Marucci, Mitchell, Newell, Nihei, Nishida, Pemberton, Rathburn, Martin Sherman, Suehiro, Swezey, Tamashiro, Thomsen, van den Bosch, Van Zwaluwenburg and Wellhouse.

Visitors: Alan P. Dodd, H. D. Kirschman and Miss Shizuko Maeda.

NOTES AND EXHIBITIONS

ORIUS PERSEQUENS (White)—Dr. Swezey exhibited specimens of this anthorid, collected at Makaha, Oahu, May 5, and commented on its abundance in flower heads of *Verbesina encelioides*, a yellow-flowered composite common in waste places in the western and southwestern lowlands of this island. The prey of this bug in the flowers was an undetermined thrips which is new to Hawaii, according to Mr. Bianchi. The thrips was even more abundant than the bug. Until transferred to *Orius*, it was known under its original name, *Triphleps*.

NEW RECORDS AND NAME CHANGES IN HAWAIIAN EPHYDRIDAE—Miss Adachi exhibited a collection of ephydrid flies identified by Dr. W. W. Wirth, from which are compiled the following notes:

Hecamede persimilis Hendel (Synonym: *H. femoralis* Malloch, see Cresson 1948, Trans. Amer. Ent. Soc., 74:23).

Mokapu, Oahu, Sept. 5, 1923, E. H. Bryan, Jr. (det. *femoralis* by Malloch) (USNM) 1 female.

Kahoolawe Is., east end, 900 ft., Feb. 14, 1931, E. H. Bryan, Jr. (det. *albicans* by Aldrich) (USNM) 1 female. *H. albicans* (Meigen) of Bryan's list ("PROCEEDINGS," 8:399-468, 1934) refers to *persimilis*; the true *albicans* is European.

Atissa oahuensis Cresson (Trans. Amer. Ent. Soc., 74:24, 1948) (type locality Tuna Packer's Pond, "Kaneghei" [? Kaneohe], Oahu. This species has until now been omitted from the lists of new insect records in these "PROCEEDINGS." Additional records:

Kaneohe, Oahu, March 13, 1947, Wirth (ex dump) 1 male, 1 female (USNM).

Kahuku, Oahu, Feb. 1, 1946, Wirth (light trap), 1 male (USNM).

Kalihi, Oahu, July 2, 1946, Wirth (hyacinth-choked ditch) 1 female (USNM).

Gymnopa grandis Cresson. Taken along beaches on *Scaevola*; Oahu.

Gymnopa tibialis (Cresson); a very common North American species. Mapulehu, Molokai, August 25, 1944, Y. Tanada, 1 female (USNM).

Discocerina mera (Cresson); described from Formosa; common across the Pacific.

Honolulu, Oahu, November 8, 1948, C. R. Joyce (USNM).

Clasiopella uncinata Hendel; described from Formosa; USNM material from Guam and Midway; very common on airplanes.

Kailua, Oahu, June 1, 1946, Wirth (at window near beach), 1 male, 3 females (USNM).

Honolulu, Oahu, Naval Air Station, January 8, 1946, Wirth (at plane window), 1 male, 1 female (USNM).

Honolulu, Oahu, April, 1951, Ala Wai canal, on vegetation.

Hostis guamensis Cresson; previously known only from Guam.

Lanikai, Oahu, December 29, 1945, Wirth (intertidal rocks, beach), 1 female (USNM).

Ewa, Oahu, March 15, 1946, Wirth (resting on seaweed on beach), 1 female (USNM).

Ceropsilopa coquilletti Cresson; a nearctic and neotropical species.

Ewa, Oahu, March 15, 1946, Wirth (swept, edge of pond) (USNM).
Honolulu, Oahu, Ala Wai, on vegetation, April, 1951.

Notophila insularis Grimshaw; this is not a *Paralimna* as indicated by Malloch and recorded by Bryan (l.c.: 455).

Waikiki, Oahu, September 27, 1918, J. C. Bridwell (USNM).

A NEW CANACEID FROM OAHU—Miss Adachi reported that Dr. Wirth had determined a fly taken at Hanauma Bay, Oahu, on rocks, early April, 1951, as *Placopsidella cynocephala* Kertész. This is a new record for the Hawaiian Islands; the species was described from New Guinea.

HOROGENES (DIOCTES) CHILONIS (Cushman)—Mr. Pemberton stated that he recently reared this ichneumonid from a larva of the coconut leaf-roller, *Omiodes blackburni* (Butler), from Lahaina, Maui, on April 9. This is a new host record for this parasite.

ANOLIS CAROLINENSIS Voight—The green lizard that has been seen occasionally in the Kaimuki district of Honolulu for the past 15 years, appears to fit the description of this species very well, according to Mr. Pemberton. It has not previously been reported from the Hawaiian Islands. Two living specimens were brought in from Kaimuki on April 26. Raymond L. Ditmars ("THE REPTILES OF NORTH AMERICA": 23, 1940) states that the species ranges from North Carolina southward throughout Florida, and westward to the Rio Grande in Texas. It is commonly known as the American chameleon.

TRIATOMA RUBROFASCIATA (Degeer)—Mr. Pemberton said that on April 30, two adults of this reduviid bug were caught in a light trap operated about one-quarter mile south of the Ewa Plantation mill on Oahu. This is the third time this insect has been taken in the Pearl Harbor region, and the first time at Ewa.

PSEUDOCOCCUS GALLICOLA Ehrhorn—Mr. Fullaway reported finding galls of this coccid on a seedling plant believed to be a *Santalum*, collected recently by Mr. Crosby on the Aiea trail. The mealybugs were parasitized by an undescribed species of *Anagyrus*.

AMYNA NATALIS (Walker)—Mr. Bianchi reported an unusually heavy infestation by this phalaenid moth on ilima (*Sida fallax*) at Lualualei, Oahu, during the latter half of April. From 107 caterpillars collected in three lots on successive weeks, emerged 17 adults of the tachinid, *Eucelatoria armigera* (Coquillett). This material also produced 2 cocoons of *Meteorus laphygmae* Viereck, but it is not certain that they issued from the *Amyna*.

BRACHYMERIA OBSCURATA (Walker)—Mr. Van Zwaluwenburg reported breeding this chalcid from the pupa case of the ichneumonid, *Hyposoter exiguae* (Viereck). The cocoon was collected at Lualualei, Oahu, April 24, from a heavy infestation of *Amyna natalis* (Walker), where two weeks earlier there had also been an outbreak of *Heliiothis armigera*

(Hübner) on *Sida*. Three other *Hyposoter* cocoons were found on foliage in the same area, and all had been hyperparasitized.

TRICHOGRAMMA PARASITIZING EGGS OF HYMENIA—Dr. van den Bosch reported that during the course of recent studies on the Hawaiian beet webworm, *Hymenia recurvalis* F., many eggs of this moth showed evidence of parasitization. Several egg clusters were then held, and from them issued adults of *Trichogramma evanescens* Westwood (determined by Dr. S. E. Flanders). Parasitization ran as follows:

Locality	Date	No. of Eggs		Percentage Parasitization
		Not Par.	Parasitized	
Insectary	Apr. 1	14	23	62.2
"	Apr. 11	6	45	82.2
Mid-Pacific area.....	Apr. 13	17	13	43.3
" "	Apr. 19	4	46	92.0

From these data it appears that *Trichogramma* can parasitize a high percentage of *Hymenia* eggs. However, a true evaluation of the benefits derived from this parasite can be had only after thorough study. The high parasitization at the insectary on April 11 and at Mid-Pacific school on April 19, occurred when oviposition activity of the moths had passed its peak. It is thus possible that only the "tail-end" eggs of each host brood are heavily affected, and that *Trichogramma* may not be so effective as at first appears. This possibility is heightened by the rather heavy larval population that existed in the Mid-Pacific sampling area at the time the eggs were collected. Nevertheless, *Trichogramma* is a welcome addition to the parasite complex affecting the beet webworm in Hawaii.

FUNGUS ATTACKING SWEETPOTATO WEEVILS—Dr. Sherman reported that a fungus was recently found infesting a culture of the sweetpotato weevil, *Cylas formicarius elegantulus* (Summers) in the laboratory. Fresh cultures of this species and of *Euscepes postfasciatus* (Fairmaire) were inoculated, and the fungus killed all individuals of both species. The fungus was identified by Dr. E. A. Steinhaus as *Beauveria* sp., probably *B. bassiana* or *B. globulifera*.

APHANIOSOMA SP.—Dr. Hardy reported that he had collected a single specimen of a chryomyid fly at Kawela Bay, Oahu, May 18, 1951. This fly has been tentatively identified by Dr. M. R. Wheeler, of the University of Texas, as *Aphaniosoma*, perhaps *thoracalis* Hendel, described from Formosa (Suppl. Ent. Berlin, 2:111, 1913). The genus is new to the Hawaiian Islands.

NOTES ON PHORIDAE—Dr. Hardy commented on a preliminary report by Father Thomaz Borgmeier of Rio de Janeiro on a collection of phorid flies. Identifications were:

Diploneura peregrina (Wiedemann); Tantalus, Oahu, 2, H.S.P.A. collection. "A very striking species with anterodorsal and anteroventral spines on hind tibiae."

Pericyclocera n. sp. A series was reared from *Achatina fulica* at Batavia, Java, June 9, 1945, by Dr. P. Van Weel. According to Dr. Van Weel's observations, the fly is parasitic on the giant African snail in Java. This fly does not occur in Hawaii.

Megaselia scalaris Loew (Synonym *Aphiochaeta xanthina* Speiser); from a number of localities on Oahu.

Megaselia sp. 1; reared from grasshoppers and from *Thecla echion* (L.), Honolulu, June 1945, December 1950 and January 1951. (C. Yoshida, D. D. Jensen and D. E. Hardy.)

Megaselia sp. 2; ex dead moth, Honolulu.

Megaselia sp. 3; no data available; the unique was not returned.

Puliciphora sp.; from fruit fly cultures, Honolulu, December 1950 (E. Dresner).

Chonocephalus sp. 1; Waimanalo, Oahu, January 1951; from bait trap (Paul Gow).

Chonocephalus sp. 2; ex meat, Honolulu, January 1928 (O. H. Swezey).

The genera *Diploneura* and *Chonocephalus* are here reported from the Hawaiian Islands for the first time.

Mr. Alan P. Dodd gave an interesting account of the cactus control project in Australia.

JUNE 18, 1951

At the invitation of the Director of the B. P. Bishop Museum, the 546th meeting of the Society was held at the Bishop Museum, June 18, at 2:00 p.m., with Vice-President Bess in the chair.

Members present: Alicata, Bess, Bianchi, Bryan, Chilson, Defibaugh, Dresner, Ford, Fullaway, Haramoto, Kamasaki, Keck, Look, Marucci, Mitchell, Nishida, Pemberton, Rosa, Martin Sherman, Smith, Suehiro, Swezey, Tamashiro, van den Bosch, Van Zwaluwenburg and Weber.

Visitors: Miss Helen L. S. Au, Otto Degener, Mrs. Janice Ford, C. F. Henderson, H. D. Kirschman, Pat Nakagawa and Carl M. Yoshimoto.

Miss Helen Au of the University of Hawaii was nominated for membership.

PAPERS

F. A. Bianchi presented his paper: "Additions to the Thysanoptera of New Caledonia"; D. T. Fullaway presented his: "New Species of *Opius* (Hymenoptera: Braconidae)"; also presented were: "The Immature Stages of *Sessinia livida* (Fabricius) (Coleoptera: Oedemeridae)," by E. A. J. Duffy, and "A Comparative Study of Spermatozoa in Relation to the Classification of Mealybugs," by Richard L. Doutt.

NOTES AND EXHIBITIONS

INSECTS FROM DECAYING BLOSSOMS—Dr. Swezey reported on insects he had reared from water contained in the axils of the large bracts of decaying *Heliconia* blossoms. The following were reared to adults from larvae:

Drosophila spinofemora Patterson and Wheeler

Drosophila mercatorum Patterson and Wheeler

Drosophila hydei Sturtevant

An undetermined winged phorid fly

An undetermined wingless phorid

Psychoda sp. (Psychodidae)

Atherigona excisa trilineata Stein (Anthomyiidae)

Volucella hoya Curran (Syrphidae)

Desmometopa m-nigrum Zetterstedt* (Milichiidae)

In addition, live adults of the hydrophilid beetle, *Dactylosternum abdominale* (F.), and of a tiny black trichopterygid beetle, were taken in the water.

PROTAETIA FUSCA (Herbst)—Dr. Pemberton reported that a single adult of this cetonine beetle was taken on a corn plant at Waipio, Oahu, on May 31 by B. K. Nishimoto. This is the first record of the occurrence of this species west of Pearl Harbor.

FULVIUS BREVICORNIS (Reuter)—Dr. Pemberton reported that 13 specimens of this mirid bug were caught in a light trap south of the Ewa Plantation mill, Oahu, during May and June, 1951. One specimen had previously been taken in a light trap at Iroquois Point, Oahu, July 30, 1947 ("PROCEEDINGS," 13:213, 1948). These later captures indicate that the species is definitely established on Oahu.

RELATIVE ABUNDANCE OF NATIVE BEETLES—Mr. Ford presented the following: Popular opinion seems to be that many of the endemic insects have become either rare or extinct; this may be true in some cases. During the past year or so Mr. Ford has devoted some 200 hours in the Oahu forests (mainly on the Waianae range) to collecting native beetles on the average of once every two weeks. The following list of his captures indicates two points: (1) endemic Coleoptera are not rare, in general; and (2) the same species that were common 50 years ago are still the most common; those that were rare then are still rare:

* See note on *D. tarsalis* Loew, p. 474.

Family	Species	Where Taken	No. Adults
CARABIDAE	<i>Metrothorax curtipes</i> Sharp	In moss clumps	1
	<i>Colpocaccus</i> sp.	Under dead "ohia" log	1
	<i>Atelothrus metromenoides</i> Perkins	Moss clumps	2
	<i>Metromenus epicurus</i> (Blackburn)	Under stones	8
	<i>Metromenus fraternus</i> (Blackburn)	Moss clumps	6
	<i>Mesothriscus musicola</i> (Blackburn)	" "	1
	<i>Chalcomenus corruscus</i> (Erichson)	" "	3
DYTISCIDAE	<i>Copelatus parvulus</i> (Boisduval)	Mountain streams	10
	<i>Rhantus pacificus</i> (Boisduval)	Still water	10
STAPHYLINIDAE	2 undet. spp.	Decayed fungus	2
HYDROPHILIDAE	<i>Limnoxenus semicylindricus</i> (Eschscholtz)	Aquatic	1
	<i>Itodacnus gracilis</i> Sharp	Dead "ohia"	1
ELATERIDAE	<i>Dromaeolus</i> sp.	" "	1
EUCNEMIDAE	<i>Orthostolus prosternalis</i> Sharp	<i>Pipturus</i> twig	1
NITIDULIDAE	<i>Parandrita aenea</i> (Sharp)	Beating "ohia"	1
CUCUJIDAE	<i>Mirosternus punctatissimus</i> Perkins	At light	1
ANOBIIDAE	2 undet. spp.	<i>Pipturus albidus</i>	2
	8 undet. <i>Cis</i> spp.	Bracket fungi	47
	<i>Aegosoma reflexum</i> Karsch	Rotting "koa"	3*
	<i>Parandra puncticeps</i> Sharp	Rotten <i>Aleurites</i>	3
	<i>Plagithmysus cristatus</i> (Sharp)	<i>Acacia koa</i>	8
CERAMBYCIDAE	<i>Plagithmysus pulverulentus</i> (Motschulsky)	<i>Acacia koa</i> ; mango	13
	<i>Neoclytarus euphorbiae</i> Bridwell	<i>Euphorbia multiformis</i>	110
	<i>Neoclytarus</i> sp.	<i>Mangifera indica</i>	1
CURCULIONIDAE	<i>Pentarthrum prolixum</i> Sharp	<i>Cibotium</i> sp.	15
	<i>Dryophthorus distinguendus</i> Sharp	<i>Aleurites moluccana</i>	15
	8 undet. <i>Dryophthorus</i> spp.	Various native plants	52
	<i>Oodemus angustum</i> Blackburn	<i>Pipturus albidus</i>	10
	<i>Oodemus aenescens</i> Boheman		1
	<i>Anotheorus montanus</i> Blackburn	<i>Metrosideros</i>	12
	<i>Xyleborus spinosulus</i> Schedl (doubtfully endemic)	<i>Citrus</i> sp.	1
	5 undet. <i>Proterhinus</i> spp.	<i>Pipturus</i> ; <i>Cibotium</i>	39
	3 undet. <i>Hypothenus</i> spp.	<i>Euphorbia</i> ; <i>Citrus</i>	33

* Larvae.

NEW KAUAI INSECT RECORDS—Mr. Weber reported that Stephen Au had collected the weevil, *Orchidophilus peregrinator* Buchanan, January 16, 1951, at Koloa, Kauai, on *Dendrobium gouldii*, and bred the syrphid fly, *Volucella hoyae* Curran, from "decayed gourd," from Waimea, Kauai, March 7, 1951. Both are new records for Kauai.

MEALYBUG NOMENCLATURE—Mrs. Defibaugh called attention to Dr. G. F. Ferris' recent revision of the genus *Pseudococcus* ("SCALE INSECTS OF NORTH AMERICA," ser. V—The Pseudococcidae, Pt. I, 1950) in which changes are made in the generic standing of some economically important mealybugs in Hawaii. The pineapple mealybug, *P. brevipes* (Cockerell) becomes the genotype of *Dysmicoccus* Ferris, to which also is assigned the gray mealybug of sugar cane, *P. boninsis* (Kuwana). The pink mealybug of sugar cane, *Trionymus sacchari* (Cockerell), becomes the genotype of the monotypic *Saccharicoccus* Ferris, and *Pseudococcus nipae* (Maskell), the genotype of *Nipaecoccus* Ferris. *Pseudococcus citri* (Risso) and *P. kraunhiae* (Kuwana) are removed to *Planococcus* Ferris.

It is of interest to note that Dr. Doult's paper (pp. 391-397 of this issue of the "PROCEEDINGS") showing structural differences in the spermatozoa of the genera in question, supports, with one exception, Ferris' new groupings of these mealybug genera.

POPILLIA JAPONICA Newman—Mr. Ford reported that a living adult of the Japanese beetle had been taken from a MATS plane arriving at Hickam Field early in June. The cargo of the plane had originated in Georgia, in an area where the beetle is known to occur.

JULY 9, 1951

The 547th meeting was held at the H.S.P.A. Experiment Station on Monday, July 9, at 2:00 p.m., with Vice-President Bess in the chair.

Members present: Helen Au, Balock, Beardsley, Bess, Bianchi, Bonnet, Bryan, Carter, Chilson, Defibaugh, Fullaway, Haramoto, Hu, Keck, Look, Newell, Nishida, Pemberton, Rosa, Schmidt, Steiner, Suehiro, Swezey, Tamashiro, van den Bosch and Van Zwaluwenburg.

Miss Helen Au was unanimously elected a member of the Society; the name of Leroy D. Christenson was nominated for membership.

NOTES AND EXHIBITIONS

A GYNANDROMORPH OF XYLOCOPA—Dr. Bonnet exhibited a gynandromorph of the carpenter bee, *Xylocopa varipuncta* Patton, collected at Kailua, Oahu, by Leonard Higbee on June 26. The normal female is jet black with dark iridescent wings, while the male is smaller, is a tawny brownish yellow and has transparent wings. This gynandromorphic specimen was yellowish on the left half, and black on the right; the left eye and left palpus were smaller than their counterparts on the other side of the body. The species is an immigrant from the southwestern United States and is found throughout the lowlands of these islands. Another example showing similar bisexual coloration was collected in 1927 ("PROCEEDINGS," 7:22, 1928).

PNEUMONYSSUS CANINUM Chandler and Ruhe—Dr. Bonnet reported a series of this mite taken from the frontal sinuses and turbinates of a dog, in March, 1951, by Dr. R. F. Cross, veterinarian of the Territorial Board of Agriculture & Forestry, while autopsying the dog from Kailua, Oahu, following its death from a leptospiral infection. There was no sign of irritation of the membranes and it is not believed that these mites contributed to the animal's death. The specimens were identified by Dr. E. W. Baker of the U. S. National Museum. The species was described from Michigan (JOURNAL OF PARASITOLOGY, 26:59-70, 1940). Additional references to this mite can be found in articles by W. S. Monlux (CORNELL VET., 30:252, 1940) and by Monlux and Turk (idem, 61:12, 1951). The mite apparently causes no discomfort to the dog, and produces no pathological condition. This is the first record of the species in Hawaii.

CHRYSIS FUSCIPENNIS Brullé—Dr. Pemberton said that his tentative identification of this immigrant chrysidid, which was first captured in Honolulu, October 14, 1949 ("PROCEEDINGS," 14:18, 1950) had been confirmed by Karl V. Krombein of the U. S. National Museum.

CANTHON HUMECTUS (Say)—Mr. Van Zwaluwenburg reported that this scarabaeid, imported from Mexico to reduce hornfly populations, was present in great numbers near Waikii, Hawaii, on June 27. It was first seen on the highway, and later found exceedingly numerous in pasture grass. Richard Penhallow, of the Parker Ranch, stated that at the present time hornfly is much reduced in parts of the ranch. With *C. humectus* as numerous as it was in late June, it is entirely possible that much of the reduction in hornfly population is due, in large part, to its work. The first recovery of the beetle after its introduction in 1923 was made at Waikii in 1947 by Dr. Swezey.

THRIPS ON ORCHIDS—Dr. Carter commented on the great numbers of thrips on *Vanda* orchids at the present time, particularly on plants growing outdoors. Mr. Bianchi said that the species is probably *Anaphothrips corbetii* Priesner, a species first reported in the Territory in November, 1950.

SCALE INSECTS AND ARGENTINE ANT—Dr. van den Bosch told of finding, in June, the following scale insects on guava bushes on Drum Drive (Highway 135) at Opaepa gulch, Oahu, all being attended by the Argentine ant. The coccids were identified by Mrs. Defibaugh as:

Hemiberlesia lataniae (Signoret)

Coccus viridis (Green)

Pseudococcus nipae (Maskell)

Saissetia nigra (Nietner)

It was interesting, incidentally, to discover later that some of the *Pseudococcus nipae* were parasitized by the introduced encyrtid, *Pseudaphycus utilis* Timberlake. It is remarkable how this parasite persists during the many years that its host has been so extremely scarce.

AUGUST 13, 1951

The 548th meeting was held at the H.S.P.A. Experiment Station on Monday, August 13, at 2:00 p.m., with Vice-President Bess in the chair.

Members present: Adachi, Beardsley, Bess, Bonnet, Chong, Christenson, Defibaugh, Fullaway, Haramoto, Hinman, Hu, Keck, Look, Messenger, Mitchell, Newell, Nishida, Ritchie, Martin Sherman, Suehiro, Swezey, Tamashiro, Tuthill and Van Zwaluwenburg.

Visitors: Dr. J. R. Arnold, H. D. Kirschman and R. O. Parsons.

Leroy D. Christenson was elected a member of the Society.

PAPER

Mr. Van Zwaluwenburg presented his paper: "New Species and new Records of Elaterid Beetles from the Pacific—IV."

NOTES AND EXHIBITIONS

HIPPODAMIA 5-SIGNATA PUNCTULATA LeConte—Miss Adachi exhibited a coccinellid beetle which, on comparison with material named by Dr. F. X. Williams, appears to be this species. It was taken inside a store window in Honolulu and is obviously an immigrant on imported vegetables. Mr. Look remarked that last year great numbers of *Coccinella californica* Mannerheim accompanied importations of celery, but that, unfortunately, the beetle has not yet become established here.

OPIUS KRAUSSI Fullaway—Miss Chong reported that a specimen of this braconid parasite was bred at Kula, Maui, from *Dacus cucurbitae* Coquillett, in loquat, July 2, 1951, by Llewellyn Akaka. This is the first record of the field recovery of this Australian species in the Islands.

ANOMALON CALIFORNICUM (Cresson)—Mr. Fullaway exhibited a specimen of this ichneumonid taken in October, 1948, at Kawaihae, Hawaii. This is a new island record for this immigrant, which locally has been known from Niihau and Oahu.

A NEW GECKO—Mr. Fullaway reported that a gecko new to these Islands, *Gehyra oceanica* (Lesson), an immigrant from Polynesia or the southwest Pacific, was taken early in August, 1951, at McKinley High School, Honolulu, by Larry Silva. The lizard was identified by V. E. Brock of the Board of Agriculture and Forestry.

PLUSIA CHALCITES Esper—Mr. Keck exhibited a larva of the green garden looper, taken on mint at Pearl Harbor. It was parasitized by the polyembryonic encyrtid, *Copidosoma truncatellum* (Dalman), first introduced into Hawaii from America by Koebele in 1898. This parasite has hitherto been known in Hawaii under its synonym, *Litomastix floridana* (Ashmead).

EUMENES LATREILLEI PETIOLARIS (Schulz)—For Dr. Pemberton it was reported that the first authentic record of this eumenid from the island of Hawaii was of material taken in numbers near Kawaihae by Leslie Wishard, April 4, 1951. It has since been taken at Hamakua Mill and at Onomea on the same island.

NEW TIPULIDS FROM HAWAII—Attention was called to the recent description by C. P. Alexander, of three species of the tipulid genus *Limonia* (*Dicranomyia*) from the Hawaiian Islands (Ann. & Mag. Nat. Hist. [12] 4:583-587, 1951). They are *L. haleakalae* and *L. kraussi* from Maui, and *L. wainaensis* [sic] from Oahu.

HYPOCRYPHALUS MANGIFERAE (Stebbing)—Dr. Swezey supplemented earlier notes on this mango bark beetle ("PROCEEDINGS," 13:445, 1949),

identified by Dr. W. H. Anderson of the U. S. National Museum. When first found it seemed to be a rare insect, with records from only two places in Honolulu. Since then Dr. Swezey has collected a few specimens from time to time from dead mango twigs. Finally, in May, 1951, he cut a living branch from a mango tree and left it on the ground. By July the beetle was found in all stages in this branch, the larvae feeding in the decaying bark and in the outer surface of the wood, leaving grooves in the latter. Five hundred exit holes of this beetle were found per one foot length of branch (which was a little less than 2 inches in diameter); they averaged 7.5 holes per square inch of bark, with as many as 20 per square inch in some parts. Thus the entire population for the branch and its twigs would total many thousands, a demonstration that under favorable conditions, this scolytid can become excessively abundant. Although records are not available, it is probable that the species is widespread on Oahu and perhaps on the other islands as well. Observations on scolytids infesting mango twigs would be valuable, but care in the determination of such material is necessary because some small species of *Hypothenemus* are also likely to be found there.

SEPTEMBER 10, 1951

The 549th meeting was held at the H.S.P.A. Experiment Station on Monday, September 10, at 2:00 p.m., with President Hardy in the chair.

Members present: Adachi, Alicata, Beardsley, Bess, Bonnet, Chilson, Clagg, Clancy, Defibaugh, Haramoto, Hardy, Keck, Look, Messenger, Newell, Nishida, Pemberton, Roan, Rosa, Schmidt, Suehiro, Swezey, Tamashiro, Tuthill, van den Bosch and Van Zwaluwenburg.

Visitors: H. D. Kirschman and F. A. Morishita.

PAPER

C. J. Davis' paper was presented: "Some Observations on the Fern Weevil (*Syagrius fulvitaris* Pascoe) in the Kilauea Volcano Region of Hawaii National Park, with Notes on Parasitism."

NOTES AND EXHIBITIONS

PARAGOGES MACULATUS LeConte—Mr. Ford reported that two specimens of this weevil had recently been taken on Oahu. One, in the latter part of 1950, was taken on Mr. Ford's clothing, outdoors, about 2 miles from the Naval Air base at Barber's Point, Oahu; the other, in July 1951 at the Honolulu airport aboard an aircraft which had been parked with open doors most of the day. It is suggested, but is by no means certain, that this insect is established on Oahu. The species is a native of California, where it is apparently uncommon; its host is unknown. Identification of Mr. Ford's specimens was made by comparison with material in the Bishop Museum, named by E. C. Zimmerman.

RECENT INSECT INTERCEPTIONS—Mr. Chilson reported the following major interceptions by Federal inspectors at the various airports on Oahu during the past three months. All specimens were taken alive on airplanes, and all originated in Japan, with the single exception noted:

Popillia japonica Newman; Honolulu airport, July 3, Mueller coll. Hickam Field, July 11, Stout coll.

Acrida turrita (L.); Hickam Field, August 12, Messersmith coll.

Protaetia orientalis Gory & Percheron; Honolulu airport, August 15, Messersmith coll.

Xylotrupes gideon (L.); from the Philippines; collected aboard plane by stewardess, Honolulu airport, August 12 (Greenfield).

Spondylus buprestoides (L.); Honolulu airport, in suitcase, August 23, Mueller coll.

INSECTS FROM BREADFRUIT BRANCHES—Dr. Swezey exhibited examples of *Scleroderma immigrans* Bridwell, bred from cerambycid larvae in dead branches of breadfruit, from which the cerambycids *Oopsis nutator* (F.) and *Pterolophia camura* Newman had issued. From the same material, and presumably parasitic on the cerambycids, a braconid also issued, *Rhaconotus vagrans* (Bridwell). This last insect has been known locally under the name *Hormiopterus*.

TACHYPOMPILUS ANALIS (F.)—Mr. Rosa exhibited a cocoon collected at Oahu Sugar Co., August 30, which ultimately proved to be that of this immigrant Philippine psammocharid. The cocoon is strikingly like those of Scoliidae, but is considerably larger than that of the "*Scolia*" wasp introduced from the Philippines.

PROTAETIA FUSCA (Herbst)—Mr. Look said that adults of this beetle were recently found attacking blossoms, pods and stems of *Crotalaria saltiana* on Alewa Heights, Honolulu. Although more than a dozen beetles were attacking a single small plant, the damage was not severe.

GRAPTOSTETHUS MANILLENSIS (Stål)—Mr. Van Zwaluwenburg reported seeing numbers of this lygaeid bug on beach morning glory (*Ipomoea pes-caprae*) at Makaha, Oahu, September 3. Although no nymphs were seen it is suggested that this plant will prove to be an addition to the hostplant list of this species.

LAMPROLONCHAEA AUREA (Macquart)—Dr. Hardy reported a second specimen of this recently collected fly was taken on May 2 in Manoa Valley, Honolulu, by a University student. The first example of this species was collected by Paul Gow in January, 1951, at Maunawili, Oahu, in a fruit fly trap containing casein hydrolysate lure.

ISCHIODON PENICILLATUS (Hull)—Dr. Hardy reported that specimens collected by Mr. Krauss in October, 1950 on Canton Island, were determined as this species by F. M. Hull. The earlier record from Canton, of *Ischiodon scutellaris* (F.) ("PROCEEDINGS," 11:310, 1943), should be corrected to *I. penicillatus*.

OCTOBER 8, 1951

The 550th meeting was held at the H.S.P.A. Experiment Station on Monday, October 8, at 2:00 p.m., with President Hardy in the chair.

Members present: Adachi, Balock, Bess, Chilson, Christenson, Clagg, Defibaugh, Fullaway, Hardy, Kamasaki, Keck, Pemberton, Rosa, Swezey, Tamashiro, Tuthill, van den Bosch and Van Zwaluwenburg.

NOTES AND EXHIBITIONS

MAPSIDIUS CHENOPODII Swezey—Dr. Swezey exhibited a breeding jar with over 300 moths of this species, bred from the foliage of *Chenopodium oahuense* collected at Pohakuloa, Hawaii by C. J. Davis in September. The plants were heavily infested. Also bred from this material, and presumably parasitic on the *Mapsidius* larvae, were 6 ichneumonids, *Olesicampe* (formerly known as *Limnerium*) *blackburni* (Cameron), and 4 *Bracon terryi* (Bridwell).

NEOCLYTARLUS CLAVIGER (Sharp)—Dr. Swezey exhibited a specimen of this native longicorn collected by Mr. Davis on his person at Keanakolu, Hawaii, at about 5000 ft. elevation. The species is attached to *Acacia koa*. Until Dr. Swezey collected a specimen in 1931 at Keanakolu, it had previously been found only at Kilauea, on the island of Hawaii.

A NEW MANTID—Mr. Rosa exhibited male adults of a mantid identified by Dr. Pemberton as *Tenodera australasiae* (Leach), a species new to the Hawaiian Islands. It was first taken in a light trap at Ewa Plantation Co., Oahu, in mid-August, 1951.

DIAPERIS MACULATA Olivier—Mr. Rosa reported that three specimens of this tenebrionid had recently been taken in the Ewa Plantation light trap. Previously the only record of this species was an individual taken in light trap at Iroquois Point, Oahu, July 9, 1947. The recent captures make it apparent that the species is established on Oahu. [Subsequently, in November, 1951, a specimen was taken in light trap at Waialua Plantation Co., Oahu.]

PROCECIDOCHARES UTILIS Stone—Dr. Bess reported that following wet weather, this tephritid fly appears to be doing a good job of reducing growth of pamakani (*Eupatorium glandulosum*) at Ulupalakua, Maui, in spite of heavy parasitization.

ICERYA SEYCHELLARUM (Westwood)—Dr. Pemberton said that F. A. Bianchi collected specimens of this coccid on Tutuila, American Samoa, early in September, 1951. It was abundant on a long list of hostplants, both wild and cultivated, but was particularly bad on citrus, breadfruit and *Plumeria*. Some of the breadfruit trees were seriously damaged, and the Samoa Department of Agriculture reports that breadfruit is occasionally killed by this insect. This appears to be the first record of this insect in Samoa. The species is known from Madeira, Madagascar, Sey-

chelles Islands, Mauritius, Reunion, Palau Islands (Angaur), Fiji, the Philippines, China, Formosa, Java and (doubtfully) New Zealand.

CORRECTIONS—Dr. Hardy placed on record the following corrections to his paper "The Krauss Collection of Australian Fruit Flies" (Pacific Science, 5:115-189, 1951):

(a) The specific name *Dacus* (*Hemizeugodacus*) *algaiæ* Hardy was a *lapsus calami*. It was based upon the plant genus *Aglaiæ*, and should be emended to *D. aglaiæ*.

(b) The type locality designation under the discussion of *Dacus* (*Strumeta*) *laticaudus* Hardy is misleading. The type locality for this species is near Deeral, Queensland, ex *Planchonella* sp.; the type is in the U. S. National Museum. The type locality of *Strumeta fuscatus* Perkins and May is Cairns, Queensland, ex *Sideroxylon obovatum*; this type is in the University of Queensland collection.

AMOBIA sp.—In a discussion of this sarcophagid, associated with *Eumenes latreillei petiolaris* (Schulz), it was said that the eumenids are uncommon at the present time. Dr. Hardy, Mr. Rosa and Mr. Mitchell recently collected numbers of *Eumenes* cells and found empty *Amobia* (?) puparia in several of them; in two cases several dead flies were present, having apparently been unable to escape from the cells. In one case Dr. Pemberton called attention to puparia in a cell stored with spiders, suggesting that *Amobia* parasitizes *Sceliphron* as well as *Eumenes* larvae.

NOVEMBER 19, 1951

The 551st meeting was held at the H.S.P.A. Experiment Station on Monday, November 19, at 2:00 p.m., with President Hardy in the chair.

Members present: Adachi, Alicata, Balock, Bess, Bonnet, Bryan, Chong, Christenson, Clagg, Defibaugh, Dresner, Fullaway, Hardy, Hu, Keck, Look, Maehler, Mitchell, Newell, Nishida, Pemberton, Rosa, Sakimura, Martin Sherman, Steiner, Suehiro, Swezey, Tamashiro, Tuthill, Van Zwaluwenburg and Zimmerman.

Visitors: Alan P. Dodd, Edward Himeno, Harry Nakao and L. Schoening.

The name of Edward Himeno was proposed for membership in the Society.

PAPERS

The following papers were presented by title: "Two new Spider Egg Predators from the Hawaiian Islands (Diptera: Drosophilidae)" by Willis W. Wirth; "A Key to the Genera of Drosophilidae of the Pacific Islands (Diptera)" by Marshall R. Wheeler; and "Drapetis insularis, a new Species from Oahu (Diptera: Empididae)" by A. L. Melander.

NOTES AND EXHIBITIONS

PROTAETIA FUSCA (Herbst)—New Oahu locality records for this beetle were given by various members: Liliha St., Honolulu, by Miss Suehiro; within a house near the top of Tantalus, by Mr. Maehler; and Ewa Plantation Co., by Mr. Rosa.

ANAPHOTHIRIPIS CORBETTI Priesner—Mr. Fullaway reported that C. J. Davis on October 8, 1951, found this thrips on *Vanda* orchids in the Homestead district of Hilo, on Hawaii. The thrips were identified by Mr. Sakimura; it is the first record of this insect on the island of Hawaii.

Mr. Sakimura reported that from observations made in Honolulu, the host range of *A. corbetti* is not limited to the widely cultivated *Vanda Miss Joaquim*. Practically all *Vanda* hybrids are attacked, with *V. Miss Joaquim* and *V. Gilbert-Triboulet* often heavily infested. Other orchids infested by this thrips were several species or hybrids of *Dendrobium*, *Miltonia* and *Cattleya*. Infestation by this thrips was not seen on various species or hybrids of *Brassavola*, *Cypripedium*, *Spathoglottis* and *Arundina*. Apparently *A. corbetti* is limited to the orchid group, for some 22 flowers of other kinds commonly grown in Honolulu were found not to be infested.

A RECENT PARASITE INTRODUCTION—Mr. Fullaway said that among recent parasite material sent to Hawaii by Mr. Weber from Iowa and Kansas was the braconid, *Oncophanes americanus* (Weed), bred from the strawberry leaf-roller, *Ancylis* sp.

LAGOCHIEIRUS OBSOLETUS Thomson—Dr. Swezey exhibited larvae, pupae and adults of this cerambycid, together with infested pieces of a *Brassaia* tree which illustrate the habit of the larva when preparing to pupate. Having fed to maturity in the decaying bark, the larva bores into the wood to make a pupal cell to which it retires after partially gnawing loose a circular disc of the outer bark, about an inch in diameter. After retiring to the pupal cell the larva manages to plug the opening with fibres and bits of wood before pupating. To emerge, the beetle has only to tear away this plug and break through the loosened disc of outer bark.

LAGOCHIEIRUS FUNESTUS Thomson—Mr. Dodd called attention to a curious habit of this related beetle, introduced into Australia from Mexico, and from Australia to Hawaii, late in 1950 to feed on *Opuntia*. The female makes a series of roughly parallel grooves in the woody growth of the cactus, and at right angles to the first series, another set of parallel grooves. It deposits its eggs in these grooves and returns day after day to lay in the grooves prepared for the purpose.

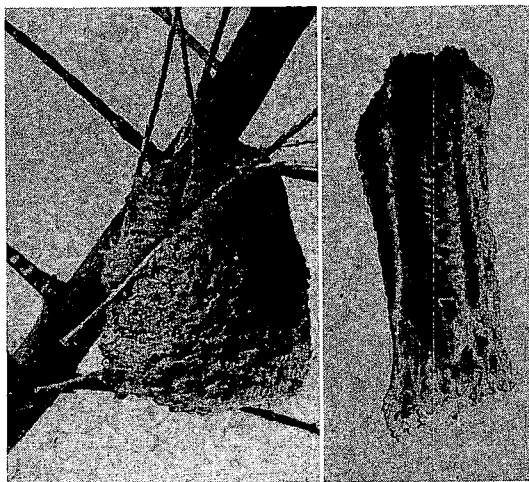
TOXORHYNCHITES BREVIPALPIS Theobald—Dr. Bonnet reported for Dr. Hu and himself that the first recovery outdoors of this giant cannibal mosquito in Hawaii occurred October 16, 1951, when two 3rd instar larvae were recovered from a tree-hole in upper Manoa Valley, Honolulu. This was a short distance from the site of an introduction on September 4, 1951. The recovery of these larvae in the field, as well as a later recovery in a bamboo stump on November 13, indicates that adults emerging from

the larvae placed in the field have survived long enough to mate and lay fertile eggs. A total of 602 larvae have been put out in various locations:

Date	Locality	Number of Larvae
August 28, 1951.....	Manoa Valley (Leong's)	100
September 4.....	Manoa Valley (Agee's)	100
September 11.....	Manoa Valley (Leong's)	100
September 18.....	Manoa Valley (Agee's)	100
September 20.....	Pupukea	100
October 3.....	Waiahole	102

A complicating factor in establishing this beneficial insect is the occurrence at this time of year of a prolonged 4th instar, and consequent delay in pupation. The same thing occurred at about the same time last year, with pupation in late March and early April. At present there are over 1,000 larvae in the colony being handled by Messrs. Bonnet and Hu, but no pupae and no adults.

TENODERA AUSTRALASIAE (Leach)—Dr. Pemberton exhibited specimens of this new mantid, and its egg-case. Surveys conducted during October indicate that the insect is numerous and widespread between the Ewa Plantation village where it was first found in mid-August of this year, and Iroquois Point. The species occurs in Australia, Tasmania, New Zealand, New Guinea, Ternate and Ceram.



Left: Egg-case of *Tenodera australasiae* (Leach).

Right: Egg-case of *T. angustipennis* Saussure.

A NEW TENEBRIONID BEETLE—Mr. Maehler exhibited two large tenebrionids taken in the aerial prop-roots of *Pandanus*, at Kuhio Wharf, Hilo, Hawaii on November 1, 1951. They appear to be identical with unnamed

specimens from New Guinea in the H.S.P.A. collection, and may be the same as specimens taken in wood at Pearl Harbor two years ago. The species is new to the Territory. [This was subsequently identified by Dr. E. A. Chapin as *Amarygmus* near, and possibly identical with, *morio* (F.), a species from Australia and New Guinea.]

ELYTROTEINUS SUBTRUNCATUS (Fairmaire) —Dr. Swezey exhibited larvae, pupae and adults of this so-called "ginger" weevil, bred from old avocado seeds lying under a tree in his Honolulu garden. This is a new food record for the species. The first record of its occurrence in Hawaii dates back to 1918, when it was found infesting root stocks of white ginger, *Hedychium coronarium*, in Nuuanu Valley, Honolulu. In 1933 it was found infesting roots of the day lily, *Hemerocallis*. Neither ginger nor day lily, both present, was found by Dr. Swezey to be infested in his garden. Dr. H. L. Lyon in 1950, found this weevil heavily infesting an old cycad trunk, in Foster Garden, Honolulu. Other known records for this insect are: ex lemons, Cook Islands, 1923; ex dead sugar cane, Tuvalu, Samoa, 1923; ex *Marattia* fern trunk, Tahiti, 1950.

POLYTERUS sp.—Dr. Pemberton exhibited a single specimen of this ichneumonid, determined by Mr. Fullaway as *Synchnoportus* sp., caught in a light trap at Ewa, Oahu, September 10, 1951. It has not previously been taken in the Hawaiian Islands. The genus *Synchnoportus* is currently considered to be a synonym of *Polyterus*.

DECEMBER 10, 1951

The 552nd meeting was held at the H.S.P.A. Experiment Station on Monday, December 10, at 2:00 p.m., with President Hardy in the chair.

Members present: Adachi, Alicata, Bess, Bonnet, Carter, Chilson, Chong, Clagg, Clancy, Defibaugh, Dresner, Ford, Fullaway, Haramoto, Hardy, Kamasaki, Keck, Look, Messenger, Mitchell, Nishida, Pemberton, Rosa, Sakimura, Martin Sherman, Suehiro, Swezey, Tamashiro, Tuthill, Van Zwaluwenburg and Zimmerman.

Visitor: Alan P. Dodd.

Edward Himeno was unanimously elected to membership.

The annual election resulted in the following officers being chosen for 1952:

President.....	H. A. Bess
Vice-President.....	P. W. Weber
Secretary-Treasurer.....	R. H. Van Zwaluwenburg
Additional Members	
of Executive Committee.....	{D. E. Hardy
	{L. F. Steiner

President-elect Bess took the chair, and Dr. Hardy, the retiring President, read the annual Presidential address, entitled: "Additions and Corrections to Bryan's Check List of the Hawaiian Diptera."

PAPERS

Papers by the following authors were presented by title: P. E. Marucci and D. W. Clancy; Alan Stone and Leon Rosen; I. M. Newell, W. C. Mitchell and Francis Rathburn; J. F. Perkins; O. W. Richards; E. C. Zimmerman; K. E. Frick; R. L. Usinger; H. F. Box, and F. R. Shaw.

NOTES AND EXHIBITIONS

NEW RECORDS FROM KWAJALEIN—Mr. Keck reported finding the false black widow spider, *Latrodectus geometricus* Koch, and the night mosquito, *Culex quinquefasciatus* Say, on Kwajalein atoll on November 15, 1951. Identification of the mosquito was made by Dr. Stephen Hu.

LATRODECTUS GEOMETRICUS Koch—Dr. Hardy reported that a male, a female and a characteristic egg-case of this spider were recently sent him from French Frigate Shoal. They had been collected by a Mr. Jennings who reported that the island was infested with the spiders, and that a man there had recently been bitten. The victim became nauseated and the leg on which he had been bitten, was temporarily paralyzed. This is the first record of this spider from French Frigate. In a discussion which followed, doubt was expressed that the false black widow would ordinarily attack people, although the possibility of such an occurrence was conceded.

MELITTOBIA HAWAIIENSIS Perkins—Mr. Mitchell reported that a cell of *Sceliphron caementarium* (Drury) containing spiders as well as a *Sceliphron* larva, later produced a puparium of what was probably the sarcophagid, *Amobia* sp. About two weeks later some 100 parasites issued from the puparium and were identified by Dr. Pemberton as *Melittobia hawaiiensis*. This is the first record in Hawaii of *M. hawaiiensis* parasitizing a dipterous insect, although Clausen ("Entomophagous Insects": 143-146, 1940) records such a case, and states that other members of the genus are known to be hyperparasites on Tachinidae.

POLISTES EXCLAMANS EXCLAMANS Viereck—Mr. Clagg exhibited specimens of this wasp, recently discovered on Oahu. On October 17, 1951, colonies of the wasp were destroyed at a house at McGrew Point, Aiea, following complaints that children were being stung by the wasps. Specimens were identified as this species by Karl V. Krombein. This insect occurs in the United States from California to the Atlantic seaboard, as far north as Iowa and North Carolina, as well as in Mexico. The nest can be distinguished from those of other *Polistes* here in Hawaii by the petiole-like attachment being at the edge of the nest, rather than near the middle. Males appear to be more common than females. Three of the males collected at Aiea have the last five segments of both antennae modified into a hook; there is no increase in the number of antennal segments of these individuals.

COCCUS VIRIDIS (Green)—Mr. Fullaway reported finding this scale on panax (*Nothopanax guilfoylei*); this is believed to be a new hostplant record.

VANDUZZEA SEGMENTATA (Fowler)—Mr. Fullaway reported that Stephen Au recently found this membracid on gorse at Olinda, Maui. This is a new island record. It was not certain that the insect was feeding or breeding on the gorse.

ANAGYRUS ANTONINAE Timberlake—Dr. Clancy reported that in 1949 several lots of the Rhodes grass scale, *Antonina graminis* (Maskell), parasitized by the encyrtid, *Anagyrus antoninae*, were collected in the Honolulu area and sent to southern Texas, where this scale has become a serious pest of various range grasses ("PROCEEDINGS," 14:7, 1950). Successful establishment of the parasite was recently reported by Paul T. Riherd (Journ. Econ. Ent., 44:622-623, 1951) at the Weslaco (Texas) Experiment Station. Liberations of *A. antoninae* are being continued on the King ranch where establishment of the parasite had earlier been prevented by a severe drought.